

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Hilda E. Smith

Serial No.: To be assigned

Filed: July 31, 2003

For: ENVIRONMENTALLY
REGULATED GENES OF
STREPTOCOCCUS SUIS

Examiner: To be assigned

Group Art Unit: To be assigned

Attorney Docket No.: 2183-6055US

NOTICE OF EXPRESS MAILING

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INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In compliance with the duty to disclose information material to patentability pursuant to 37 C.F.R. § 1.56, it is respectfully requested that this Information Disclosure Statement be entered and the documents listed on attached Form PTO-1449 or PTO/SB/08 be considered by the Examiner and made of record. Copies of the listed documents are enclosed pursuant to 37 C.F.R. § 1.98(a).

In accordance with 37 C.F.R. § 1.97(g) and (h), filing of this Information Disclosure Statement is not to be construed as a representation that a search has been made or an admission that the information cited herein is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b). Further, no representation is made by Applicant herein that no other possible material information as defined in 37 C.F.R. § 1.56(b) exists.

U.S. Patent Documents

<u>U.S. Patent No.</u>	<u>Publication Date</u>	<u>Patentee</u>
US - 5,610,011	03/11/97	Smith et al.
US - 5,681,570	10/28/97	Yang et al.
US - 5,733,765	03/31/98	Mollet et al.
US - 5,786,184	07/28/98	Mollet et al.
US - 5,928,900	07/27/99	Masure et al.
US - 5,948,900	09/07/99	Yother et al.
US - 5,981,229	11/09/99	Masure et al.
US- 2002/0055168 A1	05-09-2002	Smith

Foreign Patent Documents

<u>Document No.</u>	<u>Publication Date</u>	<u>Patentee</u>
WO 92/16630	10-01-1992	Centraal Diergeneeskundig Instituut
WO 96/21465	07-18-1996	Connaught Laboratories Limited
WO 95/06732	03-09-1995	Rockefeller University
WO 95/31548	11-23-1995	UAB Research Foundation
EP 0 750 043 A1	12-27-1996	Societe Des Produits Nestle IL-Lelystad, Instituut Voor
WO 02/038597 A2	05-16-2001	Dierhouderijen Diergezondheid B.V. Stichting Dienst
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WO 02/061070 A2	08-08-2002	Dierhouderijen Diergezondheid B.V.

Other Documents

ALLGAIER et al., Relatedness of Streptococcus suis isolates of various serotypes and clinical backgrounds as evaluated by macrorestriction analysis and expression of potential virulence traits. Journal of Clinical Microbiology, 2001, pp. 445-453, Vol. 39, No. 2.

BUSQUE et al., Immunization of pigs against Streptococcus suis serotype 2 infection using a live avirulent strain, Can J Vet Res., October 1997, pp. 275-79, Vol. 61, No. 4.

CHARLAND et al., Streptococcus suis serotype 2 mutants deficient in capsular expression, Microbiology, February 1998, pp. 325-32, Vol. 144, No. 2.

DATABASE EMBL 'Online' McNab, S. gordonii partial aldB gene, cshA gene & fbpA gene, Database accession No. X65164, XP002213089.

DE GREEFF et al., Contribution of Fibronectin-Binding Protein to Pathogenesis of Streptococcus suis Serotype 2, Infection and Immunity, Mar. 2002, pp. 1319-25, Vol. 70, No. 3.

DE GREEFF et al., Distribution of Environmentally Regulated Genes of Streptococcus suis Serotype 2 among S. suis Serotypes and Other Organisms, Journal of Clinical Microbiology, Sept. 2002, pp. 3261-68, Vol. 40, No. 9.

ELLIOTT et al., Streptococcal infection in young pigs. V. An immunogenic polysaccharide from Streptococcus suis type 2 with particular reference to vaccination against streptococcal meningitis in pigs, October 1980, pp. 275-85, Vol. 85, No. 2.

KAWABATA et al., Molecular cloning, sequence and characterization of a novel streptococcal phosphoglycerate dehydrogenase gene, Oral Microbiology and Immunology, 2000, pp. 58-62, Vol. 15.

KOLKMAN et al., Diversity of capsular polysaccharide synthesis gene clusters in Streptococcus pneumoniae, J. Biochem., May 1998, pp. 937-45, Vol. 123, No. 5.

KOSKINIEMI et al., Identification of two genes, cpsX and cpxY, with putative regulatory function on capsule expression in group B streptococci, FEMS Immunology and Medical Microbiology, 1998, pp. 159-68, Vol. 21.

McNAB, Cloning and sequence analysis of thymidine kinase from the oral bacterium Streptococcus gordonii, FEMS Microbiology Letters, 1996, pp. 103-110, Vol. 135.

MUNOZ et al., Characterization of IS1515, a Functional Insertion Sequence in *Streptococcus pneumoniae*, *Journal of Bacteriology*, Mar. 1998, pp. 1381-88, Vol. 180, No. 6.

QUESSY et al., Immunization of mice against *Streptococcus suis* serotype 2 infections using a live avirulent strain, *Can J. Vet Res.*, October 1994, pp. 299-301, Vol. 58, No. 4.

PCT International Search Report, PCT/NL02/00073, dated February 5, 2003..

PCT International Preliminary Examination Report, PCT/NL02/00073, dated May 7, 2003.

SEGRS et al., Characterisation of the gene encoding suilysin from *Streptococcus suis* and expression in field strains, *FEMS Microbiology Letters*, 1998, pp. 255-61, Vol. 167.

SMITH et al., Environmentally regulated genes of *Streptococcus suis*: identification by the use of iron-restricted conditions in vitro and by experimental infections of piglets, *Microbiology*, 2001, pp. 271-80, Vol. 147.

SMITH et al., Identification and characterization of the *cps* locus of *Streptococcus suis* serotype 2: the capsule protects against phagocytosis and is an important virulence factor, *Infect Immun.*, April 1999, pp. 1750-56, Vol. 67, No. 4.

SMITH et al., Selection of virulence-associated determinants of *Streptococcus suis* serotype 2 by in vivo complementation, *Infection and Immunity*, March 2001, pp. 1961-66, Vol. 69, No. 3.

SMITH et al., Mutants of *Streptococcus suis* Types 1 and 2 Impaired in Expression of Muramidase-Released Protein and Extracellular Protein Induce Disease in Newborn Germfree Pigs, *Infection and Immunity*, Oct. 1996, pp. 4409-12, Vol. 64, No. 10.

In compliance with the duty to disclose information material to patentability pursuant to 37 C.F.R. § 1.56 & 1.175, Applicant hereby identifies the following listed copending applications naming the same inventor:

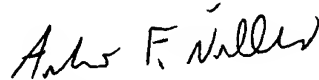
Attorney Docket No.:	2183-4726US
Serial No.:	09/767,041
Filing Date:	1/22/2001
Title:	STREPTOCOCCUS SUI VACCINES AND DIAGNOSTIC TESTS

Attorney Docket No.: 2183-6055US

Attorney Docket No.: 2183-5993US
Serial No.: 10/435,654
Filing Date: 5/9/2003
Title: VIRULENCE OF STREPTOCOCCI

This Information Disclosure Statement is filed within three (3) months of the filing date of the above-identified application, and no certification pursuant to 37 C.F.R. § 1.97(c) or a fee pursuant to 37 C.F.R. § 1.17(p) is required.

Respectfully submitted,



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Date: July 31, 2003
AFN/bv

Enclosures: Form PTO-1449 or PTO/SB/08
Cited Documents

Document in ProLaw

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 1 of 3

Complete if Known

Application Number	To be assigned
Filing Date	July 31, 2003
First Named Inventor	Hilda E. Smith
Group Art Unit	To be assigned
Examiner Name	To be assigned
Attorney Docket Number	2183-6055US

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
		US-5,610,011	03/11/1997	Smith et al.	
		US- 5,681,570	10/28/1997	Yang et al.	
		US- 5,733,765	03/31/1998	Mollet et al.	
		US- 5,786,184	07/28/1998	Mollet et al.	
		US- 5,928,900	07/27/1999	Masure et al.	
		US- 5,948,900	09/07/1999	Yother et al.	
		US- 5,981,229	11/09/1999	Masure et al.	
		US- 2002/0055168 A1	05-09-2002	Smith	
		US-			
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				
		WO 92/16630	10-01-1992	Centraal Diergeneeskundig Instituut		
		WO 96/21465	07-18-1996	Connaught Laboratories Limited		
		WO 95/06732	03-09-1995	Rockefeller University		
		WO 95/31548	11-23-1995	UAB Research Foundation		
		EP 0 750 043 B1	12-27-1996	Societe Des Produits Nestle		
		WO 02/038597 A2	05-16-2002	IL-Lelystad, Instituut Voor Dierhouderijen Diergezondheid B.V.		
		WO 00/05378	02-03-2000	Stichting Dienst Landbouwkundig Onderzoek		
		WO 02/061070 A2	08-08-2002	IL-Lelystad, Instituut Voor Dierhouderijen Diergezondheid B.V.		

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¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Substitute for form 1449A/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	To be assigned
		Filing Date	July 31, 2003
		First Named Inventor	Hilda E. Smith
		Group Art Unit	To be assigned
		Examiner Name	To be assigned
		Attorney Docket Number	2183-6055US
Sheet	2	of	3

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		ALLGAIER et al., Relatedness of Streptococcus suis isolates of various serotypes and clinical backgrounds as evaluated by macrorestriction analysis and expression of potential virulence traits. Journal of Clinical Microbiology, 2001, pp. 445-453, Vol. 39, No. 2.	
		BUSQUE et al., Immunization of pigs against Streptococcus suis serotype 2 infection using a live avirulent strain, Can J Vet Res., October 1997, pp. 275-79, Vol. 61, No. 4.	
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		DE GREEFF et al., Distribution of Environmentally Regulated Genes of Streptococcus suis Serotype 2 among S. suis Serotypes and Other Organisms, Journal of Clinical Microbiology, Sept. 2002, pp. 3261-68, Vol. 40, No. 9.	
		ELLIOTT et al., Streptococcal infection in young pigs. V. An immunogenic polysaccharide from Streptococcus suis type 2 with particular reference to vaccination against streptococcal meningitis in pigs, October 1980, pp. 275-85, Vol. 85, No. 2.	
		KAWABATA et al., Molecular cloning, sequence and characterization of a novel streptococcal phosphoglycerate dehydrogenase gene, Oral Microbiology and Immunology, 2000, pp. 58-62, Vol. 15.	
		KOLKMAN et al., Diversity of capsular polysaccharide synthesis gene clusters in Streptococcus pneumoniae, J. Biochem., May 1998, pp. 937-45, Vol. 123, No. 5.	
		KOSKINIEMI et al., Identification of two genes, cpsX and cpxY, with putative regulatory function on capsule expression in group B streptococci, FEMS Immunology and Medical Microbiology, 1998, pp. 159-68, Vol. 21.	
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		MUNOZ et al., Characterization of IS1515, a Functional Insertion Sequence in Streptococcus pneumoniae, Journal of Bacteriology, Mar. 1998, pp. 1381-88, Vol. 180, No. 6.	
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Examiner Signature		Date Considered	
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Sheet	3	of	3	Attorney Docket Number	2183-6055US

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		PCT International Search Report, PCT/NL02/00073, dated February 5, 2003.	
		PCT International Preliminary Examination Report, PCT/NL02/00073, dated May 7, 2003.	
		SEGBERS et al., Characterisation of the gene encoding suliyisin from Streptococcus suis and expression in field strains, FEMS Microbiology Letters, 1998, pp. 255-61, Vol. 167.	
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